

Park, which is sponsored by the Department of Environment, Government of India and financed by the U.S. Fish and Wildlife Service through PL - 480 scheme.

BNHS ECOLOGICAL RESEARCH CENTRE,  
331, RAJENDRA NAGAR,  
BHARATPUR - 321 001,  
RAJASTHAN, INDIA,  
April 8, 1986.

M. JOHN GEORGE

K. VENKATARAMAN

## REFERENCES

- BARROWS, E. M. (1979): Life cycles, mating and colour change in tortoise beetles (Coleoptera: Chrysomelidae: Cassidinae). *The coleopterists Bull.* 33(1): 9-16.
- JACOBY, M. (1908): The Fauna of British India including Ceylon and Burma (Coleoptera, Chrysomelidae) 1. Taylor and Francis, London.
- JOHN GEORGE, M. & VENKATARAMAN, K. (1986): Tortoise beetle — *Cassida circumdata* Herbst (Chrysomelidae: Cassidinae) as a biological control on the growth *Ipomoea reptans* in Keoladeo National Park, Bharatpur. *J. Bombay nat. Hist. Soc.* 83(2): 460-461.
- KATIYAR, O. P. & GARGAV, V. P. (1975): *Aspidomorpha miliaris* Fabr. (Coleoptera: Cassidinae) a pest of *Ipomoea cornea* Jacq. in Raigarh and Raipur districts of Madhya Pradesh. *Indian J. Entomology* 37: 83.
- LEFROY, H. M. & HOWLETT, F. M. (1909): Indian insect life, Agricultural Research Institute, Pusa. Government of India 786 pp. (Reproduced by Today and Tomorrow's Printers and Publishers, New Delhi).
- MAULIK, S. (1919): The Fauna of British India including Ceylon and Burma (Coleoptera: Hispinae and Cassidinae). Taylor and Francis, London.
- (1926): The Fauna of British India including Ceylon and Burma (Coleoptera: Chrysomelidae: Halticinae). Taylor and Francis, London.
- (1936): The Fauna of British India including Ceylon and Burma (Coleoptera: Chrysomelidae: Galerucinae). Taylor and Francis, London.
- PAJANI, H. R. & BANSAL, R. K. (1977): First report on the Chrysomelid fauna of Chandigarh. *Research Bulletin (Sci.)*, Punjab University, 28: 55-59.
- PAJANI, H. R. & SINGLA, S. R. (1981): Second report on the Chrysomelid fauna of Chandigarh and adjoining hilly areas (Coleoptera). *Research Bulletin (Sci.)*, Punjab University 32: 139-142.
- SIEBERT, M. W. (1975): Candidate for the biological control of *Solanum elaeagnifolium* Cav. (Solanaceae) in South Africa. 1. Laboratory studies on the biology of *Gratiana lutescens* (Boh.) and *Gratiana pallidula* (Boh.) (Coleoptera: Cassidinae). *J. Ent. Soc. Sth. Afr.* 38(2): 297-304.
- TREHOM, K. N. & BAGAL, S. R. (1957): Life history Bionomics and control of sweet potato weevil (*Cylus formicarius* F.) with short notes on some other pests of sweet potato in Bombay state. *Indian J. Ent.* 19(4): 245-252.
- VISALAKSHI, A., SANTHAKUMARI, K., GEORGE KOSHY & NAIR, M.R.G.K. (1980): Biological studies on *Aspidomorpha furcata* Thunb. (Chrysomelidae: Coleoptera). *Entamon* 3: 167-169.

### 31. A NOTE ON THE FOOD OF THE SPIDER *ARGIOPE ARCUATA* SIMON (FAMILY: ARANEIDAE)

On 24th November 1985 when I was walking on a bird survey from Fatehpur to Hanuman Jhora at Karera Bustard Sanctuary, Madhya Pradesh I noticed the spider *Argiope arcuata* in its web with two butterflies of *Acraea violae*

Fabr. (Family Nymphalidae) entangled on it. In addition I saw 23 butterflies of the same species underneath the spider web. As soon as the spider completed sucking the sap of the butterfly it cleared the butterfly from its

web and dropped it on the ground. The butterfly was abundant in the month of November. On 3rd December 1985 I again visited the same area and cleared the area underneath the spider web in order to count the daily trapped butterflies. But due to area clearance butterflies were not entangled on the web.

JUNIOR FIELD BIOLOGIST,  
BNHS AVIFAUNA PROJECT,  
KODIKKARAI-614 807,  
THANJAVUR DISTRICT,  
TAMILNADU,  
December 27, 1986.

#### ACKNOWLEDGEMENT

I thank to Dr. Animesh Bal, Zoologist, Zoological survey of India, Calcutta for the identification of the spider specimen.

V. NATARAJAN

### 32. NEW DISTRIBUTIONAL RECORDS OF DICOTS FOR PUNJAB STATE (INDIA)

I have been engaged in the study of the flora of Punjab State ever since July 1963. Consequently, detailed distributional and ecological accounts along with the lists of sedges (Sharma 1979, 1980), grasses (Sharma 1983 a, b) and the rest of the monocots (Sharma 1985) have been published. The study of the dicotyledonous plants collected by me during the last 22 years from Punjab shows that 16 species recorded here have not been reported earlier from this area. It may not be out of place to mention that these have not been recorded even by Nair (1978) in his comprehensive and the latest floristic work dealing with Punjab. He has accounted for 1064 taxa of spermatophytes and has taken into account all the previous publications pertaining to the flora of Punjab as well as the pertinent exsiccata conserved in the herbaria of Forest Research Institute, Dehra Dun (DD) and Botanical Survey of India, Dehra Dun (BSD).

Listed below are 16 species of dicots distributed among as many genera and 13 families. But for the minor modifications to conform to the present day circumscription and deli-

neation, the arrangement of the families here is the same as in Hooker (1872-1888). Disposition of genera, however, is alphabetical under the pertinent family. All specimens cited presently are housed in Herbarium Punjabi University, Patiala (PUN).

#### CRUCIFERAE

**Capsella bursa-pastoris** (Linn.) Medik.

Occasionally found in cultivated fields.

*Fl. & Fr.*: January-April.

*Specimens examined*: Ropar, M. Sharma 8992.

#### VIOLACEAE

**Viola cinerea** Boiss. var. **stocksii** (Boiss.) Beck.

Some plants were gathered from rocky slopes of the hill. This taxon was treated under *V. cinerea* by Hook. f. & Thoms. (in Hook. f. 1872). However *V. cinerea* is a slaty white perennial, whereas the present taxon is a glabrescent annual.

*Fl. & Fr.*: February-April.